

(4) Infrared, ultraviolet, multispectral (multiband), video, imagery radar, and related tapes, converted to a film base.

(5) Indexes and other finding aids in the form of photo mosaics, flight line indexes, coded grids, and coordinate grids.

(c) *Architectural and related engineering drawings.* (1) Design drawings, preliminary and presentation drawings, and models which document the evolution of the design of a building or structure.

(2) Master sets of drawings which document the condition of a building or structure in terms of its initial construction and subsequent alterations. This category includes final working drawings, "as-built" drawings, shop drawings, and repair and alteration drawings.

(3) Drawings of repetitive or standard details of one or more buildings or structures.

(4) "Measured" drawings of existing buildings and original or photocopies of drawings reviewed for approval.

(5) Related finding aids and specifications to be followed.

[42 FR 57315, Nov. 2, 1977. Redesignated at 50 FR 15723, Apr. 19, 1985, and 55 FR 27433, July 2, 1990, as amended at 57 FR 22433, May 28, 1992]

§ 1228.270 Electronic records.

(a) *Timing of transfers.* Each agency is responsible for the integrity of the permanent records it transfers on physical media to the National Archives of the United States. For records transferred by a media-less method, NARA works with the agency to ensure integrity of the records during the transfer process. To ensure that permanent electronic records are preserved, each Federal agency must transfer electronic records to NARA promptly in accordance with the agency's records disposition schedule. Furthermore, if the agency cannot provide proper care and handling of the media (see part 1234 of this chapter), or if the media are becoming obsolete and the agency cannot migrate the records to newer media, the agency must contact NARA to arrange for timely transfer of permanent electronic records, even when sooner than provided in the records schedule.

(b) *Temporary retention of copy.* Each agency must retain a second copy of any permanent electronic records that it transfers to the National Archives of the United States until it receives official notification from NARA that the transfer was successful and that NARA has assumed responsibility for continuing preservation of the records.

(c) *Transfer media.* This paragraph covers the transfer of permanent records to the National Archives; it does not apply to the use or storage of records in agency custody. See 36 CFR 1234.30 for the requirements governing the selection of electronic records storage media for current agency use. The agency must use only media that is sound and free from defects for transfers to the National Archives of the United States; the agency must choose reasonable steps to meet this requirement. The approved media and media-less transfer forms are open reel magnetic tape, magnetic tape cartridge; Compact-Disk, Read Only Memory (CD-ROM); and File Transfer Protocol (FTP) as described in paragraphs (c) (1), (2) and (3) of this section.

(1) *Magnetic tape.* Agencies may transfer electronic records to the National Archives on magnetic tape as follows:

(i) Open-reel magnetic tape must be on ½ inch 9-track tape reels recorded at 1600 or 6250 bpi that meet ANSI X3.39-1986, American National Standard: Recorded Magnetic Tape for Information Interchange (1600 CPI, PE) or ANSI X3.54-1986, American National Standard: Recorded Magnetic Tape for Information Interchange (6250 CPI, Group Coded Recording), respectively.

(ii) Tape cartridges may be 18-track 3480-class cartridges. The 3480-class cartridge must be recorded at 37,871 bpi that meet ANSI X3.180-1990, American National Standard: Magnetic Tape and Cartridge for Information Interchange—18-Track, Parallel, ½ inch (12.65 mm), 37871 cpi (1491 cpmm), Group-Coded—Requirements for Recording. The data must be blocked at no more than 32,760 bytes per block.

(iii) Tape cartridges may be DLTtape IV cartridges that must be recorded in an uncompressed format. Agencies interested in transferring scheduled electronic records using a Tape Archive

(TAR) utility should contact NARA's Electronic and Special Media Records Services Division (NWME), 8601 Adelphi Rd., College Park, MD 20740-6001 or by email to cer@nara.gov to initiate transfer discussions. The data must be blocked at no more than 32,760 bytes per block and must conform to the standards cited in the table as follows:

If you are copying the records on then, the standard below applies.
DLTtape IV With a DLT 4000 drive.	ISO/IEC 15307:1997, First edition, December 1, 1997, Information technology—Data interchange on 12.7 mm 128-track magnetic tape cartridges—DLT 4 format (20 GB native, 40 GB compressed, 1.5 MB/sec).
DLTtape IV with a DLT 7000 drive.	ISO/IEC 15896:1999, First edition, December 15, 1999, Information technology—Data interchange on 12.7 mm 208-track magnetic tape cartridges—DLT 5 format (35 GB native, 70 GB compressed, 5.0 MB/sec).
DLTtape IV with a DLT 8000 drive.	ISO/IEC 16382:2000, First edition, May 15, 2000, Information technology—Data interchange on 12.7 mm 208-track magnetic tape cartridges—DLT 6 format (40 GB native, 80 GB compressed, 6.0 MB/sec).

(2) Compact-Disk, Read Only Memory (CD-ROM). Agencies may use CD-ROMs to transfer electronic records scheduled to be preserved in the National Archives. The files on such a CD-ROM must comply with the format and documentation requirements specified in paragraphs (d) and (e) of this section.

(i) CD-ROMs used for this purpose must conform to ANSI/NISO/ISO 9660-1990, American National Standard for Volume and File Structure of CD-ROM for Information Exchange.

(ii) Permanent electronic records must be stored in discrete files. The CD-ROMs transferred may contain other files, such as software or temporary records, but all permanent records must be in files that contain only permanent records. Agencies must indicate at the time of transfer if a CD-ROM contains temporary records and, if so, where those records are located on the CD-ROM. The agency must also specify whether NARA should return the CD-ROM to the agency or dispose of it after copying the permanent records to an archival medium.

(iii) If permanent electronic records that an agency disseminates on CD-

ROM exist on other media, such as magnetic tape, the agency and NARA will mutually agree on the most appropriate medium for transfer of the records to the National Archives of the United States.

(3) *File Transfer Protocol*. Agencies may use File Transfer Protocol (FTP) to transfer electronic records scheduled for preservation at the National Archives of the United States. The files transferred via FTP must comply with the format and documentation requirements specified in paragraphs (d) and (e) of this section.

(i) FTP file structure may use the 64-character Joliet extension naming convention only when letters, numbers, dashes (-), and underscores (_) are used in the file and/or directory names, with a slash (/) used to indicate directory structures. Otherwise, FTP file structure must conform to an 8.3 file naming convention and file directory structure as cited in ANSI/NISO/ISO 9660-1990, American National Standard for Volume and File Structure of CD-ROM for Information Exchange.

(ii) Permanent electronic records must be stored in discrete files, separate from temporary files. All permanent records must be transferred in files that contain only permanent records.

(iii) When permanent electronic records may be disseminated through other types of mechanisms (e.g., magnetic tape, CD-ROM), the agency and NARA will mutually agree on the most appropriate medium for transfer of the records to the National Archives and will select the appropriate files for FTP transfer. Several important factors may limit the use of FTP as a transfer method, including the number of records, record file size, and available bandwidth. NARA will retain approval for appropriateness of FTP as the selected mechanism for each scheduled records transfer based on certain criteria (file size, FTP transfer rate, record classification, etc.). Agencies interested in sending electronic records scheduled for transfer to NARA through FTP must contact NARA's Electronic and Special Media Records Services Division (NWME), 8601 Adelphi Rd., College Park, MD 20740-

6001 or by email to cer@nara.gov to initiate the transfer discussions.

(iv) Each permanent electronic records transfer must be preceded with a signed Agreement to Transfer Records to the National Archives of the United States (Standard Form 258) sent to the Office of Records Services—Washington, DC (NWME), 8601 Adelphi Road, College Park, MD 20740-6001.

(d) *Formats.* The agency may not transfer to the National Archives electronic records that are in a format dependent on specific hardware and/or software. The records shall be written in ASCII or EBCDIC with all control characters and other non-data characters removed (except as specified in paragraphs (d) (1), (2), and (3) of this section). The records must not be compressed unless NARA has approved the transfer in the compressed form in advance. In such cases, NARA may require the agency to provide the software to decompress the records.

(1) *Data files and databases.* Data files and databases shall be transferred to the National Archives as flat files or as rectangular tables; i.e., as two-dimensional arrays, lists, or tables. All “records” (within the context of the computer program, as opposed to a Federal record) or “tuples,” i.e., ordered collections of data items, within a file or table should have the same logical format. Each data element within a record should contain only one data value. A record should not contain nested repeating groups of data items. The file should not contain extraneous control characters, except record length indicators for variable length records, or marks delimiting a data element, field, record, or file. If records or data elements in different files need to be linked or combined, then each record must contain one or more data elements that constitute primary and/or foreign keys enabling valid linkages between the related records in separate files.

(2) *Textual documents.* Electronic textual documents shall be transferred as plain ASCII files; however, such files may contain Standard Generalized Markup Language (SGML) tags.

(3) *Digital spatial data files.* Digital spatial data files shall be transferred to NARA in accordance with the Spatial

Data Transfer Standard (SDTS) as defined in the Federal Information Processing Standard 173-1 (June 10, 1994) which is incorporated by reference. Digital geospatial data files created on systems procured prior to February 1994 which do not have a SDTS capability are exempt from this requirement. Agencies should consult with NARA for guidance on transferring noncompliant digital geospatial data files created between February 1, 1994 and the effective date of this paragraph. The standard cited in this paragraph is available from the National Technical Information Service, Department of Commerce, Springfield, VA 22161.

When ordering, cite FIPSPUB173-1, Spatial Data Transfer Standard (SDTS). This standard is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated by reference as they exist on the date of approval and a notice of any change in these materials will be published in the FEDERAL REGISTER.

(4) *Other categories of electronic records.* Agencies should identify any foreseeable problems in the possible transfer of potentially permanent electronic records in accordance with paragraphs (d) (1), (2), and (3) of this section at the time the records are scheduled. Special transfer requirements agreed upon by NARA and the agency shall be included in the disposition instructions.

(5) *NARA consultation.* The agency shall consult with NARA for guidance on the transfer of types of electronic records other than those prescribed in paragraphs (d) (1), (2), and (3) of this section.

(e) *Documentation.* Documentation adequate to identify, service and interpret electronic records that have been designated for preservation by NARA shall be transferred with the records.

This documentation shall include completed NARA Form 14097, Technical Description for Transfer of Electronic Records, and a completed NARA Form 14028, Information System Description Form, or their equivalents. Where possible, agencies should submit required documentation in an electronic form that conforms to the provisions of this section.

(1) *Data files.* Documentation for data files and data bases must include record layouts, data element definitions, and code translation tables (codebooks) for coded data. Data element definitions, codes used to represent data values and interpretations of these codes must match the actual format and codes as transferred.

(2) *Digital spatial data files.* Digital spatial data files shall include the documentation specified in paragraph (e)(1) of this section. In addition, documentation for digital spatial data files may include metadata that conforms to the Federal Geographic Data Committee's Content Standards for Digital Geospatial Metadata, as specified in Executive Order 12906 of April 11, 1994 (3 CFR, 1995 Comp., p. 882).

(3) *Documents containing SGML tags.* Documentation for electronic files containing textual documents with SGML tags shall include a table for interpreting the SGML tags, when appropriate.

(f) *Incorporation by reference.* The following publications cited in this section are available from the American National Standards Institute (ANSI), 25 West 43rd Street, 4th floor, New York NY 10036 or electronically at <http://www.ansi.org/>. All these standards are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated by reference as they exist on the date of approval and a notice of any change in these materials will be published in the FEDERAL REGISTER.

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ANSI X3.180-1990, American National Standard: Magnetic Tape and Cartridge for Information Interchange—18-Track, Parallel, ½ inch (12.65 mm), 37871 cpi (1491 cpmm), Group-Coded—Requirements for Recording.

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ISO/IEC 15896:1999, First edition, December 15, 1999, Information technology—Data interchange on 12.7 mm 208-track magnetic tape cartridges—DLT 5 format.

ISO/IEC 16382:2000, First edition, May 15, 2000, Information technology—Data interchange on 12.7 mm 208-track magnetic tape cartridges—DLT 6 format.

[62 FR 54584, Oct. 21, 1997, as amended at 66 FR 27027, May 16, 2001; 67 FR 79518, Dec. 30, 2002]

§ 1228.272 Transfer of records to the National Archives of the United States.

(a) *Policy.* (1) Federal records will be transferred to NARA's legal custody into the National Archives of the United States only if they are listed as permanent on an SF 115, Request for Records Disposition Authority, approved by NARA since May 14, 1973, or if they are accretions (continuations of series already accessioned) to holdings of the National Archives. Transfers are initiated by submission of an SF 258, Agreement to Transfer Records to the National Archives of the United States.

(2) Each SF 258 must relate to a specific records series, as identified on the SF 115, Request for Records Disposition Authority, in accumulations of one or more consecutive years.

(b) *Initiation of request to transfer.* (1) NARA will provide the SF 258 for